

TELEPHONE INTERVIEWING

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Introduction

This publication is primarily for the use of individuals in research, either formally or informally, who are desirous of obtaining certain knowledge in a relatively short period of time.

Telephone interviewing can be used by extension workers, vocational agricultural teachers, cooperative officials, and others for the gathering of information, although the original intent of this publication is to be used mainly by researchers in the NCM 20 Regional Forestry Marketing Committee and others in social science research.

Economic Justification

Adam Smith had said that "Consumption is the sole end and purpose of all production; and the interest of the producer ought to be attended to, only as far as it may be necessary for promoting that of the consumer". ^{1/} As our economy moves further away from a subsistence economy into a differentiated or marketing economy, techniques to better ascertain methods and means of fulfilling human desires should be developed and employed in order that firms can properly make decisions and allocate resources. This paper deals with a tool - telephone interviewing - that can be economically and safely employed to aid in the above goals.

Telephone interviewing is not necessarily limited to marketing research ^{2/} but the examples herein are drawn mainly from that area. Telephone interviewing can readily be used in the various divisions of marketing research such as product development, market analysis, sales organization, and distribution and advertising, because of the primary importance of humans and human reaction in these areas.

The need for knowledge of consumer reaction is particularly keen in product development where the cost of a new product often reaches the figure of twenty million; yet, the mortality rate approximates 80%. ^{3/} The Ford Motor Company will have an estimated two hundred and fifty million dollars invested in the new Edsel before a single car is sold. Only a portion of this is recoverable in case the automobile would not be accepted by consumers.

^{1/} Smith, Adam, The Wealth of Nations, The Modern Library, Inc., New York 22, N.Y., 1937, pg. 625.

^{2/} French, Charles E. and Kranz, Douglas C., Journal of Farm Economics, "Telephone Interview As A Means of Surveying Farmers", February, 1957, Volume XXXIX, Number 1, pg. 153

^{3/} Larrabee, C.B., Printer's Ink, "Four Out of Five Don't Make It", New York, N.Y., September 23, 1955, pg. 27.

One of the common stories dealing with consumers' insatiable and nebulous desires is the tale of a large electric company which invested over a half million dollars in tooling a more powerful but almost completely silent mixer. ^{4/} After successfully designing, retooling and manufacturing this kitchen gadget, the manufacturer was astonished to find he couldn't sell them. After investigation, the manufacturer found the consumers didn't like the silent operation. Withdrawing the originals and redesigning the mixer so that it did make some noise, the company was able to successfully merchandise the machine. The point here is that human likes cannot always be predicted by what the researcher considers logical or by a prior grounds.

The trend today is to predetermine, through consumer testing or marketing channel questioning, whether or not a new or redesigned product will be accepted before expensive production techniques are operative. Business literature abounds with articles describing how one company pre-tested the market for a new type of valve or how a food processor determined which package design had the most appeal to the homemaker. A recent issue of Business Week states, "To get answers, ask people".

A.J. Wood recently stated "Management's success in making the correct decision in marketing problems depends on its knowledge of human behavior." Many economists and business men in the 'thirties and 'forties considered the Keynesian concepts of the consumption function at face value and, like Keynes, that it was relatively stable. All indications seem to point out that we need to know more about consumers reactions and intentions and how they are affected by the general economic outlook, price changes and new services and products. This is emphasized by the failure to forecast shifts in spending for durables (particularly after World War II and in 1951-52) among both

^{4/} Froman, Robert, Colliers, "You Get What You Want", April 7, 1951, pg. 26.

consumers and producers. Uneven discretionary consumer spending and saving caught us by surprise.

Commercial and academic research constantly demand accurate and relatively easily obtained answers. As the economy becomes more dynamic, these demands become greater. Telephone interviewing is one tool available to economists and others that may be employed to obtain these answers.

Some Advantages of the Telephone Interview

The advantages of the telephone interview can be characterized by:

1. Economy
2. Large area coverage
3. Relatively high, if not the highest, rate of response
4. Interviewers are easily observed and checked, both for standardized methodology and bias
5. Supervisor is readily accessible for guidance and consultation
6. Bilingualists can be more efficiently employed
7. Schedules can be edited and, if necessary, corrected while the interview is fresh in the interviewer's mind
8. Sequential sampling is easily accomplished
9. Entry both into and away from the individual household is probably more easily accomplished than by any other method
10. Call backs are easily accomplished
11. Amenable to the focused interview and limits the personal identification bias of the interviewer

Payne states that "when cost is calculated on the basis of the number of completed interviews, the telephone survey is markedly less expensive than the mail questionnaire and very much less than the personal interview survey. ^{5/} Cravens and Baeza of Michigan State University, in a potato

^{5/} Payne, Stanley L., "Some Advantages of Telephone Surveys" Journal of Marketing, Volume XX, No. 3, January, 1956, pg. 279.

consumer preference study, showed that the telephone interview (44¢ an interview) was less expensive than either the mail questionnaire (54¢ an interview) or the personal interview (\$2.72) ^{6/}

In a dairy marketing study, the author found the interviewers required an average of twelve minutes per phone interview and an average of 32 minutes for each in-person interview. The interviewer at a centralized location, utilizing both local and long distance telephone calls, has a large time savings over one who has to travel to homes or businesses. Recalls are much less time consuming and less painful to the interviewers. Redraws may be utilized with little time lost. Many problems that arise among interviewers are caused by these two factors.

Gordon Riehl has stated that today's housewife is a slave to the telephone. She has to answer it. Telephone conversation, as a means of doing business, is typical of this decade. People are accustomed to doing business over the phone.

Interviewers don't have to cope with interviewees' reluctance in opening their doors to a stranger. Interviewees aren't biased by wondering how the interviewer regards their answers and their homes. In nine Ohio cities, the response rate of those answering the phone has averaged from 93 to 99.6%. Parten reports refusal rates in telephone interviewing to be two to three percent. ^{7/} Boyd and Westfall report that less than five percent of those initially contacted refused to cooperate. ^{8/} Mail questionnaires, along with follow-ups, generally draw less than fifty per cent response. Personal interviews are reported with response rates of 80 to 95 percent. The

^{6/} Derived from unpublished Ph.D. dissertation of M.A. Baeza, Sampling and Response Differences for Three Methods of Enumeration Obtained in a Study of Consumer Potato Preference, Michigan State University, East Lansing, Michigan, 1950, pg. 23.

^{7/} Parten, Mildred, Surveys, Polls, and Samples, Harper & Brothers, New York, N.Y., 1950, pg. 87.

^{8/} Boyd, Harper W., Jr., and Westfall, Ralph, Marketing Research - Text and Cases, Richard D. Irwin, Inc., Homewood, Illinois, 1956.

writers experience with personal interviews, using hired interviewers, has averaged between 9 and 16 percent refusals, even with three callbacks.

In a regional forestry marketing project, states using the telephone interview method had a five percent higher acceptance rate than states using the personal interview method. Questionnaires in both groups of states were identical.

Correct interviewing requires skill on the part of the interviewer. It is arduous, and usually not particularly rewarding financially. Interviewing often is relegated to part-time employees or under-employed graduate students whose main concerns are not always in this area. One marketing man has said that "dishonesty of interviewers remains the greatest challenge to successful field work." ^{9/} The writer would prefer to say that, outside of poor project design, the interviewing phase is probably one of the most neglected fields in research today and is a source of much of the result differences found between researchers.

However, interviewing error can be reduced through competent questionnaire design, instruction and remuneration (financially and otherwise) of interviewers, proper pretesting, guidance and editing. In one study, refusal rates dropped from 17 percent to 1 percent after the interviewers were reorganized and retrained. ^{10/}

Telephone interviewing, when conducted in a group with a supervisor present, is not as demanding on the interviewer as if he were on his own. Proximity will aid rapport so that interviewers can be easily guided and corrected, when necessary. Interviewers will do a better "qualitative" job in this atmosphere, if encouraged to do so.

^{9/} Fisk, George, "Methods of Handling Certain Field Research Problems", Journal of Marketing, Volume XII, No. 1, January, 1948, pg. 382.

^{10/} Heneman, Herbert G. Jr., and Paterson, Donald G., "Refusal Rates and Interviewer Quality", International Journal of Opinion and Attitude Research, Volume III, Fall, 1949, pg. 394.

Many interviewers, knowingly or not, will deviate from a set questionnaire after a certain length of time. They will influence the respondent's answer or sometimes fail to ask questions as they feel they "know" what the respondent would say. Oftentimes, this is not a conscious deviation. As interviews are being conducted, many interviewers find problems or misunderstandings that were not caught in the pretest or clarified properly in the training period. The supervisor is on hand to answer these. And, of course, overt cheating is more easily apprehended.

A supervisor can readily amend any of these errors. Schedules can be edited quickly, checked with the interviewer and, if necessary, the interviewee can be reinterviewed.

Many persons work better in a group. They become more interested in their work when they realize the purpose and other attributes of this group. (This is not unlike the experiment on group behavior at Western Electric's Hawthorne plant.)

In major cities and other areas, it often becomes necessary to use bilingualists to interview certain nationality groups. The mere knowledge of a person's name does not indicate whether or not he can speak English. A bilingualist can be used easily when persons not speaking English are encountered. In Cleveland, Ohio, the writer employed a group of interviewers who could speak a total of seven different languages with little if any loss of efficiency. Substantial time would have been lost matching interviewers with interviewees if the interviewers had been in the field. Speaking a foreign language often is a mechanism used by the interviewee to discourage unknown persons and later he will revert to English.

Many times, a study requires only a certain number in a cell or a certain stabilization in sequential analysis. In telephone interviewing, changes, regarding who is to be interviewed and how they are to be interviewed, are easily made. Furthermore, changes in the questionnaire are easily made.

Interviewing has been chastised and its validity a matter of speculation partially because of the non-respondent problem and because of the effect of interviewers on answers. ^{11/} With the telephone interview method, the problem is minimized since callbacks are practically unlimited.

Using a maximum of seven calls (not including busy signals) with at least two calls in each of the calling periods - morning, afternoon and evening - the author had to drop less than 1.6% of his sample in over ten thousand interviews supervised. In order to achieve this high percentage of calls, evening calls are essential.

This percentage is important. Any substitution in a sample is subject to question and even criticism if the number of substitutions becomes significant. ^{12/} The very fact that some are not interviewable leaves room for wondering if these are typical of the interviewed group.

Interviewees are more likely to allow the interviewer to come into their home via telephone than in person. Extraneous factors arise to complicate the situation with personal interviews. Some of these are: the type of role the interviewee should play, business or friendly; should the interviewer be left outside or should he be invited to enter the home;

^{11/} Hyman, Herbert H., and others, Interviewing in Social Research, University of Chicago Press, Chicago, Illinois, 1954.

^{12/} Deming, W. Edwards, "On a Probability Mechanism to Attain an Economic Balance Between the Resultant Error of Response and the Bias of Non-response", Journal of the American Statistical Association, December, 1953, pg. 743-772.

if inside, should the interviewer be offered a chair? Telephone interviews eliminate any interviewee concentration on questions such as these, the interviewee is free to concentrate on the interview.

Usually, the experience of participating as a subject in an interview is a satisfying one. ^{13/} In a forestry consumer survey, 85 percent of the housewives interviewed by phone stated they liked being interviewed. Seventy-eight percent felt scientific research organizations should collect information by telephone interviews. Twenty percent preferred the interviewer to come to the house. Two percent were undecided.

For good interviewing, the interviewer should strive to:

1. enable the interviewee to express himself fully on the subject in question
2. maintain a neutrality that in no way inhibits, biases or expresses a feeling either for or against the respondents expressions.

In limited cases, the interview may have a therapeutic value but our usual concern is for information. Our goal is to elicit information. In as much as possible, the interview structure should require the interviewer to be only a neutral questioner whose purpose is to facilitate the free flow of information along certain lines. Many persons who have experienced a skillfully handled interview grossly misjudge the length of time consumed and the nature of the interviewer. The telephone interview aids skillful interviewing by removing many of the biases present in the personal interview. Such things as dress, size, facial expressions and mannerisms, other than vocal, do not become distractors.

Some limitations of the telephone interview should be noted:

1. not all families have listed phones;
2. there is a limit to the length of time persons will talk on the phone

^{13/} "Reading the Consumer's Mind", Newsweek, New York, N.Y., July, 1957, pg. 83.

3. some characteristics (such as race, type of home, etc.) and reactions (such as facial characteristics or unspoken emotion) are not observable;
4. motivation research is not easily accomplished;
5. use of auxiliary materials such as budgets, maps, books, projective technique materials, etc., are impossible to employ without prior contact;

It is not known how well telephone subscribers typify the general population. Since the Literary Digest Poll disaster in the 1936 election, telephone directories have been frowned upon by many concerned with the actual population. However, the use of telephones has expanded greatly since 1936. The ratio of households with listed phone numbers in larger Ohio cities approximates 85 to 91 per cent.

Although telephone companies conduct attitude studies, the writer has been unable to find any evidence of research on why persons do or do not have phones. The phone companies, since World War II, generally have had trouble expanding rapidly enough to take care of demand. In many communities, persons still have to wait to obtain service. This is particularly true if the desired service is single party phones. Additional phones require heavy expenditures for central exchange offices and other materials and services. The telephone companies appear to be following a policy of selling more service and additional units where service is already installed rather than expanding into what might be a marginal service area.

In certain cities, where supply has met up with demand, there are high saturation points. In Monroe, Michigan, 95% of the households have telephones. In Evanston, Illinois, a reported 97% of the households have telephones. The percent of farms in the U.S. having phones varies widely in different states. The low is 19% in Alabama and the high is 94% in Connecticut.^{14/} There has been a constant increase in the last decade of

^{14/} Farm Telephones, U.S. Department of Agriculture, Agricultural Marketing Service and Crop Reporting Board, Washington, D.C., July 5, 1957.

phones in rural residences.

However, many studies pertain to so-called class or selected groups. Many of these people or firms would be listed in the telephone directory. There is also the possibility that a supplemental personal interview may be made of the sample lacking listed phones. Most large metropolitan areas have street directories which list all households including those who do not have phones.

In the greater Akron and Dayton markets, over two thousand households were interviewed. A control subsample of over two hundred households not having telephones were contacted in person. The phone families were compared to non-phone families, both within the census tract and within the metropolitan area. The families having phones were not significantly different from those families not having phones. Factors compared included per capita consumption of milk, per cent of milk home delivered, per cent of milk purchased in paper, family size, and given family income. The census income was lower for non-phone families than families having phones. They did not differ in given family income. Significance was determined by a "t" test, at the 5% level.

Cravens and Baeza ^{15/}, using analysis of variance on combinations of the following, failed to reveal any significant differences where different data collection methods (mail, telephone and personal) were utilized. Factors included in the study were: a) type of potatoes purchased; b) type of container; ... e) cost per pound; f) number in family; g) consumption; h) type of shopping area in which store located; i) number of blocks traveled from home to store; j) rental areas; and k) income levels.

The writer feels that the reasons for not having a listed phone are more sociological than economic. In a Christmas tree study in the greater

^{15/} Baeza, op. cit., pg. 72

Columbus area, approximately fourteen percent of the interviewees did not have listed phone numbers. The source or list utilized was the street address directory. It was found that of these 14% (61 families), only three families did not have a phone. The reasons for not listing the phone number included: just moved and a new directory had not been published since the phone was installed (36.2%); didn't want to be bothered with a telephone (19%); illness in the family (9%); avoiding solicitors (9%); family troubles (6%); didn't want to be bothered by customers or clients (6%); and other miscellaneous reasons.

The time that persons will spend on a telephone interview is a limiting factor. However, it should be remembered this is always a limiting factor in interviewing. Some time is saved by phone interviews through brevity of introduction and a rather customary promptness in interviewee responses. "Since 1951, the average length of conversation has risen from 7 to $7\frac{1}{2}$ minutes, and again it's the home callers who talk the longest, averaging about eight minutes". ^{16/} Boyd and Westfall ^{17/} report completed interviews of twenty minutes duration. Payne ^{18/} reports that surveys now being conducted hold respondent interest through 25 questions or more. Later, when reinterviewed, the average respondent estimated the time of the first call less than half the actual time. The writer has had good success in maintaining rapport through interviews of 20 questions. Housewives generally underestimated the length of call by one-third. ^{19/}

^{16/} Hello, Monthly publication of the Ohio Bell Telephone Company, Cleveland, Ohio, November, 1956, pg. 4.

^{17/} Boyd and Westfall, op. cit., pg.

^{18/} Payne, op. cit., pg. 279

^{19/} Mitchell, G.H. and Casey, R.R., unpublished data, Ohio Agricultural Experiment Station, Wooster, Ohio, 1957.

Despite much opinion to the contrary, the attempt to find the determinants of a persons' action (motivation factors) may be obtained by definite structured questions. Extensive probing of each individual by a psychologist is not essential. 20,21/

It should be noted that:

1. telephone directories or criss-cross directories make ideal lists for sample drawing;
2. roughly 20% of the U.S. population change residences during a year, complexing the sampling;
3. unscrupulous sales organizations have used so-called research surveys as entries to the consumer.

Acquisition of Telephone Interviewers and Conducting Telephone Interviews

The literature on interviewing in research abounds with different methods which seemingly have brought good results in the individual cases concerned. Hence, this should not be considered as the only way of doing interviewing but as a way that has yielded good results.

Telephone interviewers generally need have no technical knowledge but rather should be individuals who have an agile mind, like people, like to talk to persons, desire to work, and are flexible. Our best results have been with individuals who want to work and have an I.Q. of 90 to 120. Although perhaps happenstance, women who have worked previously and between the ages of 20 to 40 have been our best interviewers and are easily obtained for employment. This is not to say other age groups or males do not make

20/ Brown, George H., "Four Misconceptions about Motivation Research", Tide, July 26, 1957, pg. 32.

21/ Kohls, R.L. and Gifford, John, "Farmer's Choice of Hog Markets", Journal of Farm Economics, Volume XXXIX, Number 1, February, 1957, pg. 67. An excellent attempt to ascertain why farmers sell hogs where they do.

good interviewers. Persons who are interested or well versed in the area that you are interviewing in (for example, a dairy farmer's wife on consumer attitudes toward milk prices) often have too many "set" ideas on the subject and are prone to advance their own ideas and experiences upon their interviewees rather than being a neutral recipient of information.

Interviewers can often be obtained from universities, business colleges, or the state employment offices. The best results have been obtained from ads in local papers. Many individuals desire a short time job while they are not in the market for a regular position.

Our method has entailed (1) explaining the job and its responsibilities to the job seekers as a group, (2) interviewing individuals separately and (3) having them call us individually on the phone. Although involving some time, this gives a chance for both you and the prospect to see each other under varying circumstances and to ascertain their qualifications for the job including their reliability.

Later, interviewers are trained together. Interviewers will tend to follow characteristics of the supervisor. The supervisor must set a good example (i.e. punctual, working, congenial, serious and confident) and maintain a rapport with his interviewers so they will be free to ask questions.

Interviewers need to be convinced that their work is important both as to the overall purpose and their own role. Interviewers often need to be reassured of this and their ability.

The overall purpose should be reviewed with the interviewers. Next, the questionnaire should be minutely gone over so that no doubt remains about what you are trying to do. The supervisor should call several persons

first to show how it is done. Then, allow the interviewers to ask questions. Next, the interviewers should call each other.

Discussion should then be allowed for possible problems and general clarification. Next, the trainees should call some persons or farms which are not in the regular sample. After another round of discussion, you are ready to begin on your regular interviewing. The interviewers should get in the habit of reviewing their own work and constantly trying for self-improvement. The supervisor also has this same responsibility.

A few general remarks may be helpful.

1. Develop a positive, confident attitude in the interviewers. Response rates go up generally as interviewers are more sure of themselves.
2. Persons generally like to be interviewed. Don't hesitate to re-explain why you are doing the study or to call back at a different time if they are busy.
3. Try to maintain a direct line of questioning. Don't agree or disagree on a controversial matter. If the interviewee rambles, ask them if you can talk about this at the end of the interview or "that's very interesting; now I'd like to get your answer to this question."
4. Interviewers often get discouraged when refused. Although you should go over if they are doing something which encourages refusals, they should be reminded that few persons get 100% acceptance.
5. The interviewee should always be given the impression that you are grateful for their aid and that they are quite helpful.
6. Only about 60 to 67% of the calls attempted will be completed. Reasons for non-completion are no answers, busy, woman not at home, sickness, call back later, and refusals. (Refusals should not run over 5%). Interviewers should be encouraged to go ahead calling regardless of non-completion. Good interviewers will average practically the same amount of completed calls regardless of the number of calls attempted.
7. Calls should be attempted in the evening as well as in the morning and afternoon. With housewives, the hours of 8:45 to 11:15, 1:15 to 4:15 and 6:15 to 9:15 have been quite satisfactory.

8. At least seven calls (not counting busy) with at least two in each time period should be made before redrawing a new sample member.

Conclusion

The telephone interview does have some limitations, particularly in lengthy or depth interviews. However, the author's experience with telephone interviewing indicates that this tool is relatively accurate, quick, and inexpensive. Industrial and academic research are constantly demanding accurate and relatively easily obtained answers. As the economy becomes more dynamic, these demands become greater. telephone Interviewing is one tool available to economists and others that may be employed to obtain these answers.